

Efficient Training of Personnel for Snow and Ice Operations Vehicle Operation Simulator for Snowplow Operator Training

Formation efficace du personnel chargé
des opérations de neige et de verglas

« Simulateur de conduite »

pour la formation des opérateurs d'engins de déneigement



NEXCO CENTRAL has developed a vehicle operation simulator to train expressway snowplow operators jointly with Central Nippon Highway Maintenance Nagoya Company Limited (a NEXCO CENTRAL group company) and other companies.



Background of development

- In view of the aging of snowplow operators essential for snow and ice operations and a declining workforce, there is a growing need to increase and train operators to prepare for a shortage of snow and ice operation personnel.
- In practice, snow removal on expressways is performed in a convoy operation involving two or more snowplows. Snowplow operators are required to perform complex operations, such as controlling the snowplow blade located in front of the vehicle while driving. However, the company had difficulty providing operators with opportunities to acquire the necessary skills using real snowplow vehicles.
- To solve this problem, we have developed a vehicle operation simulator that can be used for snowplow operation training in a simulated environment.



Snowplow convoy operation



Vehicle driving and plow operation study

Features

- The operator's cabin is equipped with a real snowplow equipment (e.g., snowplow attachment) control system.
- Different weather conditions can be simulated by varying the snowfall intensity and snow cover depth.
- A VR simulation of the alignments and road structures, such as bridges, tunnels and tollgates, of expressways is provided.
- Team operation training can be conducted with up to three simulators.
- The replay function allows operational performance to be reviewed and training results to be evaluated on a five-point scale.



Simulated snow removal operation
in a VR environment



View from inside the operator's cabin

